

BOOK REVIEW

JAMES D. MAUSETH, ROBERTO KIESLING, and CARLOS OSTOLAZA. 2002. **A Cactus Odyssey**. (ISBN 0-88192-526-8, hbk.). Timber Press, Inc., 133 S.W. Second Avenue, Suite 450, Portland, OR 97204-3527, U.S.A. (Orders: www.timberpress.com, 800-327-5680, 503-227-2878, 503-227-3070 fax). \$39.95, 306 pp, 191 color photos, 4 maps, 6" × 9".

This book describes the history/evolution of cacti in South America showing the dynamic variety of habitats from high desert to low rainforest. *A Cactus Odyssey* is a fine addition to botanical literature based on experiences taken from the extensive careers of the authors in the region, along with numerous field trips in Bolivia, Argentina and Peru between the years 1995 and 2000. The hard work and combined expertise of three botanists, James Mauseth from Texas, Roberto Kiesling from Argentina, and Carlos Ostolaza from Peru led to the publication of this tour through the parts of South America that supports diverse cactus populations. Along with the unusual plants that are studied, the authors' interactions with the local peoples that are encountered, provides interesting perspectives on the areas where they traveled. A point of particular interest is the wide range of morphological differences among these cacti found in very different places. Dr. Mauseth has done extensive work on the anatomy and physiology of the Cactaceae. In the book, many points are made illustrating why certain cacti grow as they do, and why they are so well adapted to their sometimes harsh surroundings. The geological history of the Americas is also shown as a key factor in the evolution of Cactaceae.

Written not only for botanists, the terminology and amount of technical detail are well presented, giving the reader good definitions and descriptions. Included in the explanation of why the Cactaceae are only native to the Americas, the authors tell the reader what the common traits are among all cacti; those being the presence of areoles, clusters of spines, betalain pigments, and the characteristic structures of flower, fruit and seed. Those traits combine to make the cacti very different from similar looking plants from other continents. A discussion of the water storage system in and the special modifications of different tissues related to the environment, give the reader insight to the incredible process of survival that the cacti have developed living in such extreme environments. The herbarium specimen, seed and other collections taken for lab examination have given the authors thousands of hours of future lab work, as well as potential reams publishable data.

The book includes excellent photography; some very impressive photographs taken at high elevation show hillsides otherwise barren except for compact groups of densely spined cacti. The differences in growth habits from the high elevation to middle and low elevation populations are significant. Major changes in soil type and weather, as well as the beneficial relationships with other plants, increase the ability for cacti to have more vigorous growth. "Nurse" plants range from trees and shrubs in woodland areas, to tall grasses in prairies, to rain forests trees where the cacti are epiphytes on branches along with bromeliads. An interesting note taken of the cacti that are shown is how many of them look very similar to the tall growing saguaro cacti in Arizona. Close to 18 different genera are shown as tall, branching plants; but when examined closely they are very different from their North American cousins. The efforts of these three authors have provided an exciting tour through parts of the world seldom seen by travelers. This is enlightening work describing habitat and aspects of a spectacular plant family and its evolution never before considered by most people.
—Justin Allison, Botanical Research Institute of Texas, Fort Worth, TX 76102-4060, U.S.A.